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## BIRD NOTES FROM BREMBANA VALLEY.

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AMONGST the Italian provinces, ornithologically speaking, Bergamo is one of the less known. It was illustrated indeed, many years ago, by Maironi da Ponte,\* but his catalogues are simple lists, full of all the mistakes of that epoch, and cannot positively be relied on to-day; besides, Bergamo is sometimes mentioned in the excellent works of Salvadori and Giglioli, especially with regard to Count Camozzi's beautiful and interesting local collection; Stefanini, an unhappy stay-at-home bird-skinner, who died from having cut himself in stuffing a lion that had succumbed to an illness, has written a list for the Italian Ornithological Fauna, but it is very incomplete. Arrigoni† has written about the history of Valsassina and neighbouring countries, adding a catalogue of the birds, which for its simplicity is not worth mentioning; I have also in two notes spoken about some abnormal coloured specimens of birds and hybrids preserved in the Museum of Bergamo; and, finally, the Rev. Caffi‡ published, in a pamphlet, the Ornithological Dictionary of the Province, in

\* 'Dizionario Odeporico della Prov. di Bergamo.' Bergamo, 1819. The same, 'I Tre Regni della Natura nella Prov. Bergamasca' (Atti Soc. Ital. Sc., tom. xix.).

† 'Notizie Storiche della Valsassina e delle terre limitrofe ecc.' Lecco, 1889.

‡ 'Saggio di un Dizionario dell' Avifauna Bergamasca.' Bergamo, 1898. *Zool. 4th ser. vol. V., January, 1901.*

which he gives very shortly the local and scientific names of the birds, and some remarks as to their frequency, which I suspect are not always satisfactory. Beyond the above-mentioned literature we possess nothing else.

There is no doubt that, for ornithology, this is one of the most famous amongst the Italian Provinces. Its position, the abundance of streams, springs, and rivers, its thick woods, and elevated mountains are very suitable for birds of passage, and the quantity of them caught, by all kinds of devices, and brought to the markets is enormous. My esteemed friend the Rev. H. A. Macpherson has written very fully on this point in his well-known book.\* Amongst the rarest birds which have appeared here and which afford an idea of the real importance that Bergamo holds in the Italian Provinces, I may mention *Gypaëtus barbatus*, *Glaucidium passerinum*, *Turdus fuscatus*, *Loxia bifasciata*, *Pinicola enucleator*, all of which are very seldom seen in the Italian sub-region.

Having spent some time in the Brembana Valley, one of the finest of this Province, I thought it might be useful and interesting to publish some notes about these places, which I believe are amongst the most unknown spots to ornithologists. In my researches I have been greatly helped by an intelligent but modest person, Dr. Peter Giacomelli, chemist, of S. Giovanni Bianco. He has lived there the last four years, having been obliged to leave his fatherland, Rovereto in Trentino, on account of unfortunate political questions with Austria. Before this he had been acclaimed in both natural sciences and chemistry at the celebrated University of Innsbruck; while he knows very well indeed many branches of our science. In order to collect minerals, for which he has an especial inclination, he made many trips and ascensions here and there, and we may say that he is now acquainted with everything that appears or lies in these beautiful places. I obtained from him all the local names, and much of the information I am now giving; so I have the pleasure of declaring here how deeply I am indebted to him for his kindness in helping me so much and so well.

The Brembana Valley † is the widest and the most picturesque

\* 'History of Fowling.' Edinburgh, 1887.

† Club Alpino Italiano, 'Prealpi Bergamasche,' p. 116 and follow. Milano, 1900.



amongst the valleys of Bergamo. It extends toward the north to Valtellina, to the west with Valsassina, and to the east with Seriana, like the latter being directed from north to south; and finally it ends in the open plain a few miles from Bergamo. It occupies about 774 square kilometres, and has a population of some 40,000 inhabitants. In its inferior part the river Brembo runs through a rather narrow depression, which at certain points is nothing but a defile, but it receives some important streams, such as Serina and Parina on the left, and Brembilla and Taleggio on the right. Where it meets the open plain it is swollen by the Imagna, which at first washes the Imagna Valley. Beyond Piazza the river divides into two branches, which are called Brembo of Val Fondra on the east, and Brembo of Val Mezzoldo on the west. Further on the basin of the river becomes distinctly enlarged, while these branches are again divided. The first forms the Valsecca, the Glen of Carona, and those of Foppolo; and the other the Valtorta, the Mora Glen, and the Mezzoldo Glen properly named. Spreading itself here and there towards the north, the Brembo receives, for a tract of thirty kilometres, the waters of the principal Orobica ridge from the Pizzo del Diavolo di Tenda (8882 ft.\*) to the Pizzo dei Tre Signori (7773 ft.). In this system we also observe Mount Aga (8285 ft.), Mount Masoni (8150 ft.), and Corno Stella (7983 ft.), well known for the splendid panorama that can be seen from its summit. Other important summits are the Zuc di Cam (6714 ft.), and a part of the Resegone (5716 ft.), Pizzo Torretta (8150 ft.), Cima di Becco (7654 ft.), Mount Spondone (7468 ft.), Mount Aralalta (6112 ft.), and very many more.

In the Brembana Valley and its mountains small resident birds do not greatly abound; one may walk about all day long without finding a single example; but during the migrations birds are very common, and then there are flocks of a hundred specimens and more. Gallinaceous birds are, as I shall say further on, tolerably abundant on the suitable localities. Many mountainous passes or other fit spots are covered with nets, traps, and different kinds of devices, amongst them the best known and productive being the "Roccolo," of which the most famous in the Brembana Valley are the following:—Roccolo

\* A foot equals .3048 of a meter, or 12 inches.

Oneta (about 2000 ft.), owner Dr. Morali; Rocolo Costa S. Gallo (about 2500 ft.), owner Sign. Luiselli; Rocolo Ornica (about 2850 ft.), owner Sign. Gualteroni; Rocolo of the Trinità, near Dossena (about 3050 ft.); Rocolo Valbusa (about 4000 ft.), and those, above Roncobello, which lie at about 4300 ft. It is very difficult to ascertain how many birds are caught in a period of about three months; we can say an enormous quantity, but envy, diffidence, and other qualifications render an estimate difficult, though it is certain that many "Rocoli" yearly capture several thousands of small birds. Another matter which adds to the difficulty of collecting birds is the quantity eaten by the inhabitants. If the rich seek the delicate ones, the poor are satisfied with anything; even Buzzards, Owls, and Woodpeckers are as readily eaten by them as the Woodcock or the Capercaillie!

The climate is neither very cold, nor very warm even in summer; the snow is not continuous on the high mountains, but only on some narrow northerly situated spots.

The Brembana Valley, more than the rugged Seriana Valley, offers to the traveller a greater variety and beauty in scenery, a most luxuriant vegetation, and also, not to be despised, many artistic treasures; amongst which may be mentioned the pictures of Palma il Vecchio and others, which are well-known to everybody and everywhere.

The Bearded Vulture (*Gypaëtus barbatus*, v. Agola) lived in these mountains in former years; but is probably now extinct, though a specimen was recently caught—I think between 1896 and 1897—not very far from Camerata Cornello (1800 ft.). I am quite sure about this fact, as I had the opportunity of seeing and purchasing six well-preserved tail-feathers in the house of a mountaineer, and these are preserved in my collection as a proof of that occurrence. The feathered portion of them measures from about ten to thirteen inches. I think, from the comparisons I made with splendid specimens from Sardinia, they must have belonged to a matured bird. People say that this species breeds not seldom on the cliffs of Mount Legnone (8226 ft.), but I think that affirmation is absolutely incorrect. The species is represented in Count Camozzi's local and well-known ornithological collection at Ranica, near Bergamo; but the two specimens came from Valtellina (Sondrio), as my friend Count Cesare Camozzi-Vertova



informed me. They were caught before 1848, and one which was brought alive and lived some time subsequently became so wild that it was found necessary to kill it. Count Camozzi added also that his illustrious father, Senator Camozzi, has seen this species on flight before 1848. The specimen preserved in Count Turati's collection at Milan, labelled as caught on the Alps of Lombardy in 1868, came instead from Switzerland, as I was assured by Signor Bonomi, whose father preserved and set up that grand bird.

Amongst the *Aquilæ*, the Golden Eagle (*Aquila chrysaëtos*) is not very rare; it breeds in some very high spots in these mountains, and it is not very seldom seen flying on the above-mentioned Pizzo dei Tre Signori and Pizzo del Diavolo di Tenda, on Mount Cervo (7675 ft.), Mount Pegherolo (7221 ft.), Mount Pietra Quadra (6982 ft.), and in the mountains towards Como. Dr. Giacomelli told me that in the month of May last year he was offered two very young nestlings, taken from Cancerbero (4027 ft.), of the size of a full-grown fowl, for about one shilling each; they were almost totally covered with white down; but he refused to buy them, not knowing what to do with them. I have no local information about the other Italian *Aquilinæ*, but it seems that a specimen of the Lesser Spotted Eagle (*A. maculata*) was found dead, on May 1st of last year, by Dr. Giacomelli himself, on the north side of the Somnadello \* sink-pit (4814 ft.); it had been, some days before, severely wounded on the back, and was then so decomposed that it was impossible to preserve it; its skull, however, compared with that of *A. clanga* appeared quite different from the latter, and belonging to the lesser form, which is more uncommon in Italy. The information about the White-tailed Eagle (*Haliaëtus albicilla*) is very uncertain and contradictory, and cannot be relied upon. The Short-toed Eagle (*Circaëtus gallicus*) and Osprey (*Pandion haliaëtus*) appear but very seldom.

Amongst the *Buteoninæ*, the Rough-legged Buzzard (*Archibuteo lagopus*) is very rare; it has appeared only on the most frigid days of severe winters, and I saw the remains of a specimen caught on Mount Azzarini (7307 ft.) in January, 1898. The

\* Some people call it Sornadello, but the Guide of the C. A. J. and the military maps of the Geographical Institute of Florence name it as above.

Honey Buzzard is very rare also. The Buzzard is met with everywhere, but not found very high; while the Long-legged Buzzard (*Buteo ferox*) is till now unknown. The Black Kite (*Milvus ater*, v. niblet, nèbel) is rare, but a breeding species; and I think it is the same with the Common Kite (*Milvus ictinus*); I saw the former not very far from Roncobello (3074 ft.), but I was unable to secure it. The Gos-Hawk (*Astur palumbarius*) is fairly abundant during summer in the mountainous woods; and the Sparrow-Hawk is one of the most common local rapacious birds.

Amongst the other rapacious birds, *Gennaja* are unknown, and certainly unrecorded up to now. The Peregrine Falcon (*Falco peregrinus*, v. falcón di barbìss) is pretty common, but not easily found, in the high mountains. I saw the Merlin (*Æsalon regulus*) at the Hill di Valpiana (3166 ft.), but I was unable to shoot it; and I heard that the Red-footed Falcon (*Erythropus vespertinus*) in some years is not rare during May in certain mountain meadows (Passo di Grialeggio, 5209 ft., Monte Aralalta, Monte Ortighera, 5009 ft.); I obtained a specimen for my collection from S. Pietro d'Orzio (1877 ft.) on May 10th, 1894. The Kestrel (*Tinnunculus alaudarius*) is met with also at the top of the highest mountains, and I secured a specimen for my collection at the Zuccone dei Campelli, at about 6094 ft.. Regarding the other small Falcons I lack information.

The Marsh-Harrier (*Circus æruginosus*, v. Falchètt d'aqua), the Hen-Harrier (*C. cyaneus*), and perhaps Montagu's Harrier (*C. cineraceus*), are met with but very seldom; they generally frequent the marshes, and here they appear almost like stragglers, especially the two latter.

Regarding the nocturnal birds of prey, I noticed the Barn-Owl (*Strix flammea*, v. Dàma, Loch bianc), which is met with up to 3000 ft. in height, and is fairly abundant, but specimens with the under-parts white seem to be very rare. The Short-eared Owl (*Asio otus*, v. Loch) and the Long-eared Owl (*A. accipitrinus*, v. Loch, L. gross) are common and breeding species. The Scops Owl (*Scops giu*, v. Sisöl) is a summer visitor, fairly frequent, and breeding. The Tawny Owl (*Syrnium aluco*) is not unfrequent; while the Ural Owl (*S. uralense*) has not hitherto been observed. Tengmalm's Owl (*Nyctala tengmalmi*) is rather scarce; the Pigmy

Owl (*Glaucidium passerinum*) is very rare, perhaps quite localized; while the very imposing Eagle-Owl (*Bubo ignavus*, v. Duss, Lucù) is met with to about 4600 ft. in height, and in the woods of fallen leaves, showing itself very seldom in the ever-green ones; it feeds upon rats and birds; sometimes it enters small villages, and it was observed in those of Fuipiano (1411 ft.), S. Giovanni Bianco (1219 ft.), S. Gallo (1294 ft.), Ornica (2805 ft.), and some others; it is a resident and breeding species.

Amongst the *Picidæ* we observe tolerably common and resident the Green Woodpecker (*Gecinus viridis*, v. Picòss vert, Beca soch) and the Great Spotted Woodpecker (*Dendrocopus major*, v. Picalègn ross, Picòss gross); the Grey-headed Green Woodpecker (*G. canus*) was only once observed, but I think, if exhaustive enquiries are made, it will be found to occur more frequently; Dr. Giacomelli told me that the only specimen was caught not very far from the top of Cima di Grem (6243 ft.); it was shot by a priest, who presented it to a friend of his. The Great Black Woodpecker (*Picus martius*, v. Picòss nigher) is easily found in the wildest woods of some mountains, where it is almost restricted to a height of no more than 4900 ft.; in winter it descends a little; we are informed that it was found at Mount Combana (7192 ft.), Pizzo dei Tre Signori, Mount Ponteranica (7550 ft.), Mount Cavallo (7081 ft.), but, as I have said, not above 4900 ft., generally. The Middle Spotted Woodpecker (*D. medius*) was once observed in the neighbourhood of Oltre il Colle (3961 ft.). The Lesser Spotted Woodpecker (*D. minor*) is not at all rare, and I have secured in former years a great many specimens for my collection. The Wryneck (*Lynx torquilla*, v. Becaförmig) is a common summer visitor; it does not breed above about 4900 or 5200 ft. The Cuckoo (*Cuculus canorus*, v. Cucù) is a pretty common species during summer; it nests according to its usual method, but it is not found generally above 3000 ft. The Roller (*Coracias garrula*) and the Bee-eater (*Merops apiaster*) are stragglers. The Hoopoe (*Upupa epops*) is a fairly abundant species, not breeding above 5200 ft.; I have found the nest at Mount Ortighera (5009 ft.), a few feet from the top. The Kingfisher (*Alcedo ispida*, v. Martin pescadör, Becapèss, Piombi) is abundant. The Nightjar (*Caprimulgus europæus*,

v. teta-àche) is a fairly abundant summer visitor; it nests also near S. Giovanni Bianco, at Pianca (2447 ft.), Ronco dei Gatti (2690 ft.), Scalvino (1495 ft.), &c. The Alpine Swift (*Cypselus melba*, v. Dardù de corna, Rondù de corna) is less frequent than the Swift (*C. apus*, v. Dardù, Rondù), and it is found up to about 6000 ft.; both are summer visitors and breeding. Amongst the *Hirundinidæ*, the Martin (*Chelidon urbica*, v. Dard), the Swallow (*Hirundo rustica*, v. Rondanina), and the Sand-Martin (*Cotile riparia*, v. Dard R. de ria) are summer visitors, fairly common, and breeding. The Crag-Martin (*Biblis rupestris*) is met with up to 6000 ft. on the Lakes Gemelli; it is fairly abundant, and sometimes it is seen also on flight during winter; I have a specimen caught at Acquacalda (1935 ft.) on January 2nd, 1892. The White-collared Flycatcher (*Ficedula collaris*) is very rare during spring, while the Pied Flycatcher (*F. atricapilla*) and the Spotted Flycatcher (*Muscicapa grisola*, v. Alètt, A griss) are common and breeding. The Waxwing (*Ampelis garrulus*, v. Ciarlù, Bec-frisù) is sometimes seen as a straggler, and is very rare. The Shrikes are fairly abundant; they are called *Gazeta grossa*, *picola*, &c. The Southern Grey Shrike is lacking, the Lesser Grey Shrike (*Lanius minor*) and Red-backed Shrike (*L. collurio*) being the commonest. Amongst the *Paridæ*, both species of *Regulus*—Firecrest and Goldcrest (v. Steli, St. de montagna) are common and breeding in the evergreen forests; they descend lower in winter and during the cold weather. I had the Bearded Titmouse (*Panurus biarmicus*, v. Paisöla di barbiss) from S. Pellegrino (1082. ft.) on October 2nd, 1896; and the Penduline Titmouse from Campo Fiorito (4960 ft.) on April 20th, 1899; both are in my collection, but they are rare, as I am told. Irby's Long-tailed Titmouse and the White-headed Long-tailed Titmouse (*Acredula irbyi* and *A. caudata*, v. Cua longa, Scuasi) are common and breeding. Amongst the others, I may mention the Great Titmouse (*Parus major*, v. Paissöla), Coal Titmouse (*P. ater*, v. Ciuci), Blue Titmouse (*P. cæruleus*, v. Moneghina), common and breeding species; the Marsh Titmouse (*P. palustris*) is unknown; the Crested Titmouse (*Lophophanes cristatus* v. Ciuci col söff) is restricted very high in the evergreen woods, where it breeds; I had it from Mount Verrobio (6453 ft.) in summer, and from Olmo al Brembo (1694 ft.) in



winter. The Nuthatch (*Sitta cæsia*, v. Pic çender) is abundant. The Wall Creeper (*Tichodroma muraria*, v. Barbèl, Beca corne, Becaràgn, Pic de corne) is a fairly abundant species; it breeds on the Cancervo and everywhere in the high districts, but not above 5200 ft. The two *Certhiæ* (Tree-Creeper, v. Rampegghì) are met with; *Certhia familiaris* seems to be the commoner. The Wren (*Troglodytes parvulus*, v. Reati, Trentapìs) is common and resident; it breeds everywhere on the mountains. The Dipper (*Cinclus merula*, v. Merèll acqueröl) is met with wherever in the adapted localities; I have not seen the northern form called the Black-bellied Dipper (*C. melanogaster*), but I succeeded in finding the Dipper up to 4500 ft. above the sea. The Hedge-Sparrow (*Accentor modularis*, v. Matèla) is met with, and breeds everywhere; while the Alpine Accentor (*A. collaris* v. Materòt, Materàss) is fairly common, and breeding, from 4500 to 7600 ft.; I obtained specimens from Somnadello and Cancerbero; in winter it comes lower; it breeds on the tops of the shanties of shepherds. The Thrushes are represented by the Blackbird (*Merula nigra*, v. Merell), very common; the two forms of Ring Ouzel (*M. torquata* and *M. alpestris*, v. Merla montana) are frequent; Dr. Giacomelli told me that the northern form is commoner, but I doubt it; all three breed, and also the Song-Thrush (*Turdus musicus*, v. Durt), of which I have succeeded in having a nestling from the Passo del Branchino (5628 ft.). The Fieldfare (*T. pilaris*, v. Visc-ièra) is only a winter visitor, and a bird of passage, while the Mistle-Thrush (*T. viscivorus*, v. Dressa) is resident; while so far there are no proofs of the breeding of the Redwing (*T. iliacus* v. Sdurdì) in these highlands. I have no notice regarding the other rare species of Italian Thrushes, but certainly the Dusky-Thrush (*T. fuscatus*), and perhaps the Black-throated Thrush (*T. atrigularis*), must be met with as stragglers. I preserve in my collection an adult male of the former, which was caught at Breno, a few miles from Bergamo, and not very far from the beginning of the Brembana Valley.\* The Rock-Thrush (*Monticola saxatilis*, v. Cueròss) is a common bird, summer visitor, and breeding. The Blue Rock-Thrush (*M. cyanus*) is particularly abundant in

\* E. Arrigoni degli Oddi, "Il *Turdus fuscatus* nel Bergamasco" (Riv. Ital. Sc. Nat. xiii. No. 9, Siena, 1893).

rocky parts of Taleggio Valley at Vedeseta (2490 ft.), Salzana Valley, &c., but not above from 3000 to 3600 ft.; it is frequently kept in cages for its sweet song; it is called *Passara solitaria*. Amongst the *Saxicolæ*, we found both *Pratincola rubetra* (Whinchat, v. Morèt) and *P. rubicola* (Stonechat, v. Machét Ciùp-tèc), and the Wheatear (*Saxicola œnanthe*, v. Cul-bianc), all common and breeding everywhere, especially on the mountains. The Black-eared Chat (*S. aurita*) is less common than the Black-throated Wheatear (*S. stapazina*). The White-spotted Bluethroat (*Cyanecula wolfi*, v. Moràt turchi) is fairly abundant, and we may meet with it in autumn and in winter till January; there is no evidence of a spring passage, but it must surely happen. The Red-spotted Bluethroat is rarer.

As resident birds, are found the Redstart (*Ruticilla phœnicurus*, v. Moratì, Cuaròssa), Black Redstart (*R. titys*, v. Moràt nigher, M. carbunèr), and Redbreast (*Erithacus rubecula*, v. Piciàl).

Afterwards I observed the Nightingale (*Luscinia vera*, v. Rossignöl), Garden Warbler (*Sylvia salicaria*, v. Becafìg), Blackcap (*S. atricapilla*), Barred Warbler (*S. nisoria*), Orphean Warbler (*S. orphæa*), Whitethroat (*S. cinerea*, v. Gazetìna), and Lesser Whitethroat (*S. curruca*, v. Beca-mùre)—all summer visitors, and breeding. Dr. Giacomelli told me he succeeded in obtaining one specimen of the Northern Nightingale (*L. philomela*), which was caught at Camerata on October 1st, 1899; it was an adult male, though this was not a very strange occurrence, I only admit this species on his testimony. The Phylloscopi (v. Tuì, Tuindt Tuinù) are common, comprising *Phylloscopus bonellii*. About Reed-Warblers we know very little, but I saw on the Gemelli Lakes (5971 ft.) a specimen of the Grasshopper-Warbler (*Locustella naevia*), and I heard along the Ambria, not very far from Zogno (1017 ft.), the Sedge-Warbler (*Calamodius schænobænus*); both are now in my collection. Amongst the Wagtails I mention the White Wagtail (*Motacilla alba*, v. Baleróta), the Grey Wagtail (*M. sulphurea*, v. Balarìna), the Blue-headed and Yellow Wagtails (*Budytes flavus* and *B. cinereocapillus*, v. Boarì), which are common and breeding species; perhaps the Grey-headed Yellow Wagtail (*B. borealis*); but I have no notice regarding the Black-headed Yellow Wagtail (*B. feldeggii*). The Tree-Pipit

(*Anthus trivialis*, v. Guina), Meadow-Pipit (*A. pratensis*, v. Sguissèta), and Water-Pipit (*A. spinoletta*, v. Sgussetù) are common, and breeding to 6000 ft., and I found them breeding at the Gemelli Lakes and on Mount Farno (7626 ft.). The Tawny Pipit (*A. campestris*) was found breeding at the top of Mount Pojeto (4144 ft.), but the eggs were too far hatched. Richard's Pipit (*A. richardi*) is exceedingly rare. Probably the Red-throated Pipit (*A. cervinus*) is confounded with *A. pratensis*; I have a specimen in my collection from Zogno, with the date May 25th, 1898. Amongst the Larks, I may mention the Sky-Lark (*Alauda arvensis*, v. Lodola, Calandrù), common to 3000 ft., and the Wood-Lark (*A. arborea*, v. Lodolì), the Crested-Lark (*Galerita cristata*, v. L. dal capöss); they breed and are abundant. The Shore-Lark (*Otocorys alpestris*) is of an irregular appearance. The Lapland Bunting (*Plectrophanes lapponicus*) is rare, and also of irregular appearance during frozen weather; while the Snow-Bunting (*Plectrophenax nivalis*) is not very rare, but is of irregular occurrence, especially in January, on the Cancerbero and other high mountains; it is called *Passera bianca* or *Ortolà d-la nif*, and its rarity depends on the years and on the cold. The Corn-Bunting (*Miliaria projer*), Yellow-Hammer (*Emberiza citrinella*, v. Pajarana), Cirl-Bunting (*E. cirrus*), Meadow-Bunting (*E. cia*), and Ortolan-Bunting (*E. hortulana*, v. Ortolà) are very common, and breeding; the first three are also resident. The Rustic and the Little Bunting (*E. rustica* and *E. pusilla*) are rare. The Reed-Bunting is common, and less so the Large-billed Bunting, though only as birds of passage. Amongst the *Fringillinae*, the Italian Sparrow (*Passer italiae*, v. *Passer gross*, Passarù), and the Tree-Sparrow *P. montanus*, v. *Passera büseröla*) are common, but not above about 4600 ft., where they are replaced by the Alpine Accentors, found on the roofs of huts. The Rock-Sparrow (*P. petronia*, *Passera d' montagna*) is fairly abundant. Regarding the Snow-Finch (*Montifringilla nivalis*), the information is not satisfactory. People say it is a straggler, and of irregular passage in winter; but I do not think so. I believe these birds are resident at about 6000 ft. in height, and that during the cold weather they descend lower. I obtained some from Foppolo in the winter of 1888, for which I am indebted to Count Roncalli, from Bergamo. After-

wards it was seen, during winter, at S. Giovanni Bianco, Cancero, Camerata (Giacomelli's *findes*). I have noticed that it is met with on the Pizzo dei Tre Signori, Cima di Piazzo (6268 ft.), Mount Aralalta, and Mount Venturosa (6091 ft.). They nest on the roofs of huts, sometimes in the crevices of cliffs, and in the daytime they remain very long at the top of rocks quite close to each other, and we could approach very near them, but at the first report of a fowling-piece they were intensely alarmed, and it was quite impossible to enter into friendly terms with them again. The Hawfinch (*Coccothraustes vulgaris*, v. Frisù), Chaffinch (*Fringilla cœlebs*, v. Frànguel), Brambling (*F. montifringilla*), Greenfinch (*Ligurinus chloris*, v. Amaròt), Siskin (*Chrysomitris spinus*, v. Logarì), Goldfinch (*Carduelis elegans*, v. Gardell, Raarì), Serin (*Serinus hortulanus*, v. Sverzerì), Linnet and Bullfinch are common and resident, but much more abundant in passage-time. The Northern Bullfinch (or *Pyrrhula major*), is also met with; I preserve in my collection a splendid adult male, which I procured from Piazzolo (2139 ft.), through the kindness of Sign. A. Oldrighetti. I have not seen hybrids between *F. cœlebs* and *F. montifringilla*, but Dr. Giacomelli told me that they sometimes interbreed; that almost every year he has seen some of them; and that they are well known to bird-catchers. The Citril-Finch (*Chloroptila citrinella*, v. Turlurì, Canarì de montagna) does not breed, and seems to be only a passage-bird, and not very abundant in most years; it passes generally in the first fortnight of October; and if in one year it is fairly common, in another it is almost rare, so that the flight is not always of the same intensity. I obtained specimens for my collection from Serina (2508 ft.) and Olmo at Brembo. I have made many enquiries in order to learn if this species breeds or not, but have never succeeded in ascertaining; I think, however, that this operation certainly occurs in the evergreen woods of the highest mountains.

Redpolls (*Ægiothus linaria* and *Æ. rufescens*, v. Gegì, Cardinalì) are tolerably abundant during the passages, but whether they breed in these mountains is uncertain. Of the Pine-Grosbeak (*Pinicola enucleator*), a straggler was caught in the "Roccolo" of the Trinità near Dossena. The Parrot Crossbill (*Loxia pityopsittacus*) is certainly very rare; but, regarding this species, Dr. Giacomelli told me it is of an irregular passage, and



he observed it during 1897 and 1899 at the "Roccolo" of Dossena. Last year, at the end of October, he received five young specimens, which, according to him, undoubtedly belonged to that species. The Common Crossbill (*Loxia curvirostra*) is resident and fairly abundant; it certainly breeds in the woods near Piazzolo, according to the information of Dr. Giacomelli, who has succeeded in finding nests several times. They were placed upon the horizontal branches of some firs, from six to eight feet from the trunk; sometimes they were built on the top of the firs. The Two-barred Crossbill (*Loxia bifasciata*) is very rare, and certainly a straggler; a specimen was caught at the Dossena "Roccolo" two years ago; it was unfortunately eaten (Dr. Giacomelli's *fides*). The Common Starling (*Sturnus vulgaris*, v. Stornelli) is principally a passage-bird in these highlands, but some couples remain during summer, and breed generally on the trees. The Golden Oriole (*Oriolus galbula*, v. Galbèr) is tolerably common during summer, and breeding also near S. Giovanni Bianco. I found several of them towards Brembilla (1274 ft.) in the Brembilla Valley.

Amongst the *Corvidæ*, the Alpine Chough (*Pyrrhocorax alpinus*, v. Tàcola dal bec zald) is common; it does not live so high as the Red-billed Chough (*P. graculus*), but, like the latter, it nests and is resident. The latter (v. Tàcola dal bec ross) is fairly common, but a widely localized resident, and breeding along all the Orobie watershed on Mount Redorta (9154 ft.), Mount Gleno (8785 ft.), Mount Venerecolo (7889 ft.), Pizzo Tornello (8190 ft.), and sometimes, but not often, at the Cà S. Marco (5582 ft.). They descend a little during winter. The presence of this species in that province is not very extraordinary, but authors seem always ignorant of the fact, though I can vouch for it, as I had a nice adult male caught at Mount Cavallo (7101 ft.) on Sept. 3rd, 1893; this is preserved in my collection. We found the Carrion-Crow (*Corvus corone*) uncommon, but the Rook (*C. frugilegus*) and the Hooded Crow (*C. cornix*) common; they breed, and I found many of them feeding in a meadow, on Aug. 20th last year, at the Corno Grosso (4025 ft.) near Piazza Brembana. The Raven (*C. corax*) is tolerably abundant on the highest mountains, from which it descends in winter time; and the Jackdaw (*C. monedula*) is very

common. Both are resident and breeding. The Jay (*Garrulus glandarius*) and the Magpie are common and resident, and so is the Nutcracker (*Nucifraga caryocatactes*), which is perhaps not very abundant, and which lives particularly in the thickest woods.

The Turtle-Dove (*Turtur communis*) is a summer visitor, but not very frequent; it breeds. The same may be said about the Wild Pigeons which are sometimes met with during the passages, but they are somewhat scarce, and I do not know whether they breed or not.

Pallas's Sand Grouse (*Syrrhaptes paradoxus*) seems to have appeared once in the last incursion of 1888; this information was given me by Dr. Giacomelli. The Common Ptarmigan (*Lagopus mutus*, v. Roncàs) and the Black Grouse (*Tetrao tetrix*) are fairly common, resident, and breeding on the highest mountains, as Cancerbero Aralalta, Cà S. Marco, &c. The former is sold in the market for about four shillings each, the latter for twenty shillings a couple, if they are male and female, and less if they are not. The Hazel Grouse (*Bonasa betulina*, v. Francoli) and the Capercaille (*Urogallus vulgaris*) seem to have disappeared from Brembana Valley; the former is now only seldom met in the mountains of the Seriana Valley, where it confines with Cavallina; the latter in those of the Valley of Scalve; but they are uncommon birds, perhaps almost extinct. All these gallinaceous birds are greatly persecuted by birdcatchers, in every way and at all seasons, so they decrease perceptibly every year. The Quail (*Coturnix communis*) is not a common bird in the Brembana Valley, strictly speaking, but it is met with and sometimes breeds in the lower parts of it, in corn-fields or meadows of trefoil (Dr. Giacomelli). Fairly common, however, are Partridges (*Perdix cinerea*, v. Pernis), and especially Greek Partridges (*Caccabis saxatilis*, v. Coturna). The latter is found in many places—Cancerbero, Somnadello, Castello Regina (1424 ft.), Cà S. Marco, &c. To give an idea of its frequency, I may mention that Sign. Pianeti, from Camerata Cornello, a most celebrated hunter and shooter, kills from one hundred to one hundred and thirty of them every year in two months' shooting. They cost, on the market, from eighteenpence to two shillings each, according to the weight; very old specimens weigh about two pounds,

and they are greatly sought for their excellent flesh. Partridges commonly cost about eighteenpence each. Both breed everywhere on the mountains. Dr. Giacomelli assures me that the Red-legged Partridge (*C. rufa*) is also found in the province, sometimes in the Brembana Valley, but especially in the Valley of Scalve on the highest mountains. I have not succeeded so far in getting any specimen of this species, which is on the way of becoming extinct in many parts of Italy; in Tuscany and in the Elba Island it also becomes every year more and more rare.

*Grallatores* and *Anseres*, in the Brembana Valley properly called, are almost absent, or irregular and straggler visitors; but I have noticed the following:—Lapwing (*Vanellus capella*); Golden Plover (*Charadrius pluvialis*, v. Co-dür, Piviè), of which I have a specimen from Ponte Enna (1837 ft.), April 1st, 1890; and I am sure that the Dotterel (*Eudromias morinellus*) must appear on the high meadows; the Broad-billed Sandpiper (*Limicola platyrhyncha*) appeared once on the Brembo River close to S. Giovanni Bianco on Aug. 27th last year; Dr. Giacomelli has preserved the rare specimen, but, alas! in a pitiful state of preservation; the Common Redshank (*Totanus calidris*, v. Culètt) is uncommon; in my collection there is a specimen from Costa dei Lupi (1867 ft.); it was caught starving on April 4th, 1900; the Greenshank (*T. glottis*, v. Sgambetù) is rarer than the latter, but I had a specimen killed along the Brembo on May 2nd, 1896; it is also in my collection; the Common Heron (*Ardea cinerea*); Purple Heron (*A. purpurea*), and Squacco Heron (*Ardeola ralloides*) are seen sometimes during spring; the Woodcock (*Scolopax rusticola*) is a fairly common bird during the passages and in winter; it seems to have bred once near Fuipiano al Brembo (1411 ft.); the Common Snipe (*Gallinago caelestis*) is sometimes seen along the Brembo, and so is the Double Snipe (*G. major*) and the Jack-Snipe (*G. gallinula*), as I have been told. During stormy winter weather the Common Gull (*Larus canus*) and the Black-headed Gull (*L. ridibundus*, v. Gabià) were seen along the Brembo; and regarding the Great Crested Grebe, Dr. Giacomelli assures me that a specimen was caught at the Ponte dei Frati (1207 ft.), near S. Giovanni Bianco, in the winter of 1898; and, finally, amongst the Wild Ducks we can mention Mallard, Wigeon, Teal, and Garganey, all of them irregular visitors.

There is no doubt that many other species of these birds must or may appear during the flights, but only naturalists who are accustomed to live in that neighbourhood can make a complete list. That, however, in our case is not very important, because it is rather difficult to find a very rare water or shore bird in those districts, though we may easily meet other species, as Dunlins, Sandpipers, Water-Rails, Crakes, Coots, Gulls, Terns, Grebes, &c., which are not uncommon in the neighbouring open plain, where they can live at their ease. As these places are not adapted for them, they may appear here only as stragglers, or in the flight-time as irregular ones; but this fact seems to me of very little interest, for I firmly believe it exceedingly difficult to find Sociable Lapwings, Phalaropes, Purple Sandpipers, Bartram's Sandpipers, Bernicle Geese, Scoters, and Skuas here, or the many other birds of rare appearance in our subregion, which offer a particular interest to the Italian ornithologists.



## THE NESTING HABITS OF MOOR-HENS (*GALLINULA CHLOROPUS*).

BY OLIVER G. PIKE.

DURING some years past there has been much discussion in 'The Zoologist' concerning the nesting habits of Moor-hens. Opinion among some ornithologists still seems to be divided as to whether these birds cover their eggs on leaving their nests. During four years I have had several pairs of Moor-hens under observation; and in the case of dozens of nests I have never seen the eggs covered. During the spring of 1900 I found a nest carefully domed over with reeds, almost perfectly hiding the contents from any egg-stealing bird that might pass over; but, with this one exception, I have never known of a Moor-hen trying to conceal her eggs.

It is not with this question, however, that I would particularly deal, but rather with an overlooked habit of this species.

On July 3rd, 1899, I roused a Moor-hen from her nest, which contained no eggs; and, thinking perhaps that the eggs might be covered, I carefully examined it. There were some flat reed-blades which had the appearance of being recently placed there, but there were no eggs underneath. A little farther up stream I found another nest built in a very exposed situation, but still containing no eggs. The next day I visited the nest first mentioned; I cautiously approached, and again saw the hen sitting, her head being tucked under one wing. She was probably asleep, but on my making a noise she instantly sat up and then jumped off the nest, when I was surprised to see three nearly full-grown young birds emerge from beneath her. The nest was an exceptionally large one, and the bird when sitting seemed to be larger than usual, the three young which she was covering of course accounting for her apparent large dimensions. About six feet from the first nest another had been commenced, but this was smaller than the other. I waited for some time, hoping

the birds might return, but they did not do so. I then returned to the nest farther up stream, when I had the satisfaction of seeing one of the old birds sitting; she left the nest on my approach, but it contained neither eggs nor young. The following evening this bird was again sitting; the nest now contained one newly-hatched Moor-hen, and both this and its parent scuttled away on seeing me. In the nests first found three young birds were in possession and were all asleep, one of them being in the new nest, which was now completed.

On July 7th I again visited these two nests, but a number of people near had frightened the birds, and they were not to be seen. A curious thing, however, was that another nest, similar to the second one, had been built, the three forming a kind of triangle. After this the birds were constantly seen to leave these nests when I approached. On the same day I went to the nest which on July 5th had contained one young bird. The little black Moor-hen was still there, and its parent had left before I arrived. I heard her on the other side of the stream, however, calling to the young bird to follow, which it did with characteristic alacrity. This nest had had much material added since I last saw it, and was consequently rather high above water; it was chiefly composed of fine dry grasses. On the two following evenings the nest became visibly smaller, and careful observation proved that the Moor-hens were moving it piece by piece to the other side of the stream, where the situation was more sheltered. The nest in which the young were hatched was a few yards from this roosting-nest, being built in a bush about ten feet above water-level. I watched the Moor-hens very closely to see whether they would make another nest when the young were hatched, with the result as described. The other three roosting-nests, built close together, were about twenty-five yards from the one which was used for incubation purposes.

In the spring of 1898 a nest was built beneath the roots of a tree on the stream-side; it contained eight eggs, and incubation lasted three weeks. Immediately the young were hatched a sleeping-nest was made about three yards from the first, in the middle of the stream, supported by a submerged tree. The original was afterwards deserted, and this one alone used. As the young grew, however, another was built, evidently because

the other was too small to hold the growing family. The same year I found another nest under a tree-root three hundred yards from the one just mentioned. When the young were hatched, another was made in a more exposed situation. On April 27th, 1900, I discovered a Moor-hen's nest by the side of a stream. On May 7th some of the young were hatched, and a roosting-nest was commenced—probably by the male bird—in the centre of the stream, this one also being supported by a fallen tree. For several evenings afterwards one of the adult birds was sitting in this latter with the young, and once or twice I was able to approach by day to see one or two young birds using it. As the latter grew, another nest was built under the roots of a neighbouring tree, this being a large, loose, clumsy structure, such as might have been built by the young themselves.

Near the stream-bank were a number of trees, and at the top of one of these I waited for several hours to observe more closely the habits of the Moor-hens. I had not waited long before the hen swam up stream, meanwhile calling her brood together; she entered the nest built in the stream, and turned round several times to smooth down the loose grass just recently placed there. I could hear the young birds, but could not see them on account of the foliage in the tree. At this moment the keen eye of the old bird caught sight of me; she hastily left the nest, and did not return.

This nest was of immense size, and was constantly being added to; I found freshly added green grass as late as the beginning of August. Another nest that I had under observation during this year (1900) was a repetition of those previously described; roosting-nests were added for the young in a similar way.

Although I have consulted several works for the purpose of learning something about such extra nests, they do not appear to be mentioned in any of the chief reference books. Mr. G. B. Corbin, writing in 'The Zoologist' for Feb. 1899, p. 82, says:—"With regard to the nidification of the Moor-hen, I have often found that a much larger number of nests seem to be constructed than are ever used; but for what purpose is this apparent waste of time and labour?" This is the only reference I have found relating to what I call Moor-hens' roosting-nests.

It seems to me that all Moor-hens build these extra nests for

the purpose of providing resting-places for their young; I also think that the young, when sufficiently grown, make additional ones for themselves. I should like to hear from any correspondents who have observed this hitherto overlooked habit of one of our most interesting water-birds.

There is one other habit I may mention. In all of the Moorhens' nests I have found, it seems to be a general rule for the hen to commence sitting as soon as the first egg is laid, so that some of the young are hatched before others. Probably the male bird commences an extra nest for these first-comers to use; for one additional nest under my notice was commenced before the hen had finished sitting.



## LOWESTOFT FISH-WHARF.

BY THOMAS SOUTHWELL, F.Z.S.

DURING a visit to Lowestoft extending from the 3rd to the 24th of October, I paid almost daily visits to the fish-wharves, where the arrivals of fish are landed and disposed of by auction, the great bulk being at once packed and transferred to the railway-siding to be despatched to the various markets in London and elsewhere. There are two docks, each very extensive, and furnished with a landing-stage, covered in and paved, that devoted to trawl-fish being 500 ft., the other, 650 ft. long, to Herring and Mackerel brought in by the drift-netters. On the floors are deposited the Herring and Mackerel in great heaps, consisting of ascertained quantities, and these are sold by duly authorised persons to the highest bidder. The scene when the fish are being landed in large numbers may be easily imagined: the ringing of the auctioneers' bells; the shouts of "Mackerel buyers," "Herring buyers," or as the case may be; the crowding by rough men in a vast variety of costumes, from the great sea-boots and oileys to the serge-clad salesmen, some wearing an outer coat of linen to protect their clothes, and rubber boots or huge "clogs" to guard their feet: but all is picturesque in the extreme. The heaps of glittering Herring or beautifully iridescent Mackerel look like bright gems in the sun, and the bustle, great as it is, is in a manner orderly and perfectly good-natured, jokes and rough witticisms flying about in plenty; a stranger, however, soon finds himself in the way, and feels that he has no business there, if he is not present on business.

The wharf for trawl-fish is often an even busier scene, as there is a greater diversity of fish and more buyers, and many of them of a different class to those who frequent the Herring wharf, where, as a rule, the merchants and curers are the purchasers. The trawl-fish are landed in boxes called "trunks,"

and many a retailer will buy one or more trunks of fish for his business requirements; but the mode of disposal is the same. The auctioneer, preceded by a man ringing a bell, mounts upon one of the fish-trunks, and shouts his ware: "Now, then, But buyers," "Roker buyers," "Lachet buyers," or as the case may be. The buyers crowd round, and amid jocular remarks, in which the seller does his part, trunk after trunk, piled with Turbot, Brill, Whiting, Plaice, Soles, Skate, and a dozen other kinds, are rapidly disposed of, whilst others are being as rapidly landed from fresh arrivals to take their place.

It is the wharf for trawl-fish which is the most attractive to the student of fishes, and I scarcely ever went there but I saw something of special interest. There were always vast quantities of flat-fish of various kinds, from costly Turbot, some very large, and almost equally costly Soles, to humble Plaice and Dabs; but the infinite variety in the tints and disposal of the colours and markings was very interesting. I am told that the salesmen are so experienced that they can tell at once by the appearance of the fish from what locality they were derived. Large numbers of Skate and Rays were there, from baby fish which figured among the refuse, to monsters, hideous in appearance. Laid by itself, as a "curiosity," on one occasion, I saw a fine Torpedo Ray (*Torpedo nobiliana*), which is a very rare fish with us. *Raia batis* was common enough, but I also saw two specimens of *Raia oxyrhincus*, a rare fish here.

On the 20th a fine Porbeagle was brought in, which measured 7 ft. 10 in. long; this species, much to the annoyance of the fishermen, is occasionally entangled in the drift-nets, to which and the contained fish it does immense damage. Large numbers of the Mackerel and Herring show injuries inflicted by the various species of Dog-fish, but I saw very few of these pests landed; perhaps the fishermen kill them, and throw them back into the seas, as they are of no use to them.

A Porpoise made its appearance one morning; they are abundant enough; but I have never, to my surprise, seen or heard of a Dolphin (*Delphinus delphis*) being captured by any of our boats. This is singular, as Sir Thomas Browne knew this species, and there seems no reason why it should not occasionally pay us a visit.

On the 18th there was a fine (broad-nosed) Sturgeon brought in, which I was told sold for £5; it excited more interest than the Porbeagle. Garfish was of daily occurrence, and Allis Shad (*Clupea alosa*), a few. Mackerel there were, of course, in immense numbers, but it is remarkable how little variation there was in colour and marking. This fishery, which formerly on our coast was confined to the spring, has now become quite an autumn industry, and vies with the Herring fishery.

On the 24th I saw a very handsome Three-bearded Rockling (*Motella tricirrata*), which the fisherman appropriately called a "Leopard-ling"; it was fifteen inches in length, and beautifully coloured. The Dory (*Zeus faber*) was of almost daily occurrence; sometimes as many as a dozen or more could be counted, but they were generally small. The same may be said of the Surmullet, which always appeared in more or less numbers.

There were many other fish which, not being highly esteemed, found their way into the refuse-heaps, and sold for very small sums. Among them were large numbers of Weaver-fish, and small Gurnards of various kinds; but the large *Trigla hirundo*, known here as the "Lachet," of which there was always a good supply, many of them measuring 22 in. to 24 in. long, were great favourites, and sold well.

Lobsters and Crabs were not numerous, but some of them very fine, as also dredged Oysters of very ancient appearance, whose shells must have formed the homes of vast colonies of Zoophytes and the lower forms of marine animals; but there was one crustacean which surprised me with its numbers, having hitherto regarded it as of very unusual occurrence on the Norfolk coast. These were often large baskets of *Nephrops norvegicus*, which the fishermen called "Prawns." I had never seen this species in such quantities before, and upon inquiry was told that it came from the "North Sea," a very wide address; but the fishermen have their favourite haunts, and do not care to speak too precisely to strangers. I, however, learned that they were brought by the trawlers from the "Dutch side"—that is, somewhere about the Texel, and from thence to Heligoland—and this Mr. Patterson confirms from Yarmouth.

Of course it would not be right to claim the fish we see landed here as belonging to our immediate neighbourhood. The

steam trawlers go far afield, and their produce may have been acquired a long distance from home ; but there are others which make their captures nearer home, and, by the exercise of due caution, a shrewd guess may be formed, and often accurate information obtained as to the locality of their origin.

My object in writing is to show how very interesting to an ichthyologist such a place as the Lowestoft fish-wharf is, and to express my regret that there is now, to my knowledge, nobody living there who takes an interest in the subject. Were such the case, I am convinced that in a few years we should have a much more accurate knowledge of the fish-fauna of the seas washing our shore than we have at present.



## A PLAGUE OF SNAKES.

BY GERALD LEIGHTON, M.B.

THAT a dwelling-house in this country should be visited with a plague of Snakes seems like a wild romance, and no doubt very many readers of the daily papers who perused the following paragraph (or a similar one) gave the reporter credit for a somewhat lively imagination :—

“A PLAGUE OF SNAKES.—The residents of a house at Cefncaeau, near Llanelly, are suffering from a plague of Snakes. The reptiles are of all sizes and colours, and they crawl over the floors, infest the cupboards, curl themselves together on the furniture, and even luxuriate in the bedrooms. No fewer than twenty-two Snakes were slaughtered in one day.”

The above is from the ‘Morning Leader.’ The Cardiff ‘Western Mail’ went into more detail still, and reported the occurrence thus :—

“A PLAGUE OF SNAKES AT LLANELLY: HOUSE COMPLETELY INFESTED.—The residents of a house at Cefncaeau, near Llanelly, have undergone a very unpleasant experience of late. It was reported by the sanitary inspector of the borough council on Friday that the place had become the domicile for innumerable Snakes of all sizes and colours. They crawled over the floors, infested the cupboards, curled themselves together on the furniture, while some more aspiring members of the species climbed the stairs and luxuriated in the comforts of the bedrooms. The human occupants of the house had done their best to rid themselves of these unwelcome visitors, and had waged a war of extermination against them. The Snakes continued to come, however, although, as the inspector explained, no fewer than twenty-two were slaughtered in one day. The sanitary committee listened to the recital of these facts with horror written on their faces, but took no action in the matter, being uncertain, probably, whether their jurisdiction extended to Snakes. How-

ever, the inspector will probably serve notice to quit upon them, failing compliance with which more summary measures will be taken."

This was about the second week in September, 1900, and most of the daily papers had some reference to the curious phenomenon. It seemed to me that it would be interesting to investigate the matter thoroughly, and accordingly I communicated with the sanitary inspector of Llanelly, to whom I am indebted for the facts here related.

It seems, then, that the house in question is one of a row of eighteen, and faces the north. The gardens are in front of the houses, with *a road between*. At the back of the row there is a stubble-field, the level of which is a little higher than the floor of the houses. There are no back doors on to this field, each house having a small back window, some of which are made to open, others not. Below these houses the locality is very wet and damp, and there are several small old coal-pits, over a hundred years old. For the last six or seven years there have been scores of Snakes to be seen about these houses, even climbing up the walls, and on to the old-fashioned roofs which they have. For the last two or three years the reptiles seem to have become even more numerous. In the particular house (No. 2) referred to in the above quoted paragraphs, the woman who lived in it one day saw a small Snake on the hearthstones, right before the fire. The next day she saw several dropping down from *a hole in the wall* about two feet from the floor. They then made a search, and found a dozen more, and again, in another place, several small ones. The tenant then made out that the place was unhealthy, and left, having first of all reported this extraordinary condition of affairs. On Oct. 28th the sanitary inspector was looking over some repairs to this particular house. The back wall was taken down and the oven, but nothing was found there. However, on removing the rubbish, he saw a small Snake, and captured it. Such are authentic facts of the matter given to me by Mr. D. P. Thomas (sanitary inspector).

Of course, the two interesting questions were, first, which of our Snakes was it that was thus obtruding itself in such numbers; and, secondly, where did they come from, and how? There could be little room for doubt as regards the first; the mere fact

of the reptiles being in such numbers made it most probable that the Common Ring-Snake (or Grass-Snake) was the intruder. However, to set the matter beyond all doubt, I requested Mr. Thomas to send me the specimen he caught for identification. This he kindly did, and it turned out to be, as I expected, *Tropidonotus natrix* (the Ring-Snake). It measured  $7\frac{1}{4}$  in. in length, and was a young one, probably hatched out about the middle of August. As there was no suggestion that more than one kind of Snake participated in the visitation, this settled that point. The next question is—where did they come from? If one thinks for a moment of the natural habits of this our Common Snake, it is not difficult to see how it could easily happen that a large number might suddenly make their appearance. The Grass-Snake is oviparous, depositing its eggs, sometimes to the number of three dozen or more, in any convenient rubbish-heap, or manure, there leaving them to the action of the sun and moisture to be hatched out. They are deposited in the spring, and hatch out either in the autumn, or, as not infrequently happens, remaining over the winter unhatched, and developing only the following spring. In this case they evidently hatched in the autumn, early in September.

Probably the haunt of the parents at Llanelly is in the old quarry referred to. A bunch of eggs could very easily be carried into the house in some faggots, and there lie unheeded till hatched out, and then suddenly a "plague of Snakes" appears. From the fact that as many as twenty-two were taken in the one dwelling, this seems to have been the case, as it is unlikely that so many would have made their way into one house, unless born in it. Moreover, I am informed that all were about the same size, which further points to their origin being from one bunch of eggs. It is quite possible that the eggs were deposited by the parent behind the oven, or in a hole in the back wall, and there lay undisturbed during the period of development.

On taking down a further portion of the wall, no fewer than forty bundles of eggs were found, each bundle containing thirty eggs, out of each of which a young Ring-Snake was issuing; so that there were some twelve hundred of the reptiles in an area of a few feet (*cf.* letter to 'The Outlook,' vol. vi. p. 526).

## NOTES AND QUERIES.

### MAMMALIA.

#### CETACEA.

**Lesser Rorqual Whale.**—An adult female example of the Lesser Rorqual (*Balanoptera rostrata*) was washed ashore two miles north of Caister (five miles north of Yarmouth) early on the morning of Dec. 3rd last. I went to see it in the noon-hour, and found the dimensions as follow:—Length, 30 ft.; width of tail-fluke, 7 ft. 6 in.; pectoral flippers, 4 ft. It had evidently followed the Herring-shoals, and, getting into difficulties amongst the sand-banks, had succumbed. It had been dead five or six days, and was already becoming very “high and gamey.” The deeply furrowed belly had expanded with putrefactive gases, and answered to pressure like a huge bladder. No traces of having been run into by steamer or other craft were visible, but the outer skin had been much abraded from contact with the sands. Someone had been before me, and had cut out all the baleen but a seven-inch length near the snout. This example is identical in size with the one that afforded such an exciting chase in Yarmouth Harbour in June, 1892, and which the writer exhibited, stuffed, on the marine parade in the following season.—ARTHUR PATTERSON (Ibis House, Great Yarmouth).

#### AVES.

**Habits of the Ring-Ouzel.**—Referring to Mr. Fox's interesting article in ‘The Zoologist’ (1900, p. 1), on the Ring-Ouzel (*Turdus torquatus*) in Derbyshire, it will be seen that Lord Lilford says, “I have observed the bird in our immediate neighbourhood, on its return migration, about the end of April”; and the Rev. H. A. Macpherson (‘Fauna of Lakeland,’ p. 89) writes, “The last days of March witness the return of the Ring-Ouzels to their upland home.” From what is known of its migratory habits, one would think that this species should arrive in Northamptonshire much before the end of April; but if the date of arrival is fixed late for Northamptonshire, Mr. Macpherson's date for Lakeland would appear to be early. Of course they may arrive in the Lake District earlier than here, but this seems hardly probable. We have seen it here in March, but this has been in an exceptionally mild season, and in normal seasons it cannot be expected to arrive before the first week in April. In its general



habits we quite agree with St. John ('Sport in Moray,' p. 103) and Macgillivray ('British Birds,' vol. ii. p. 102), that they are similar to the Blackbird, more so than between those of the Fieldfare and Song-Thrush, as stated by Mr. Fox. On the other hand, we quite agree with Mr. Fox that the Ring-Ouzel does not manifest any skulking habits during the breeding season—at least when it has young—at which time it is often bold and fearless, and advances to within a short distance of any intruder who may be playing with its young. Contrary to Mr. Fox's experience, we have never found the male bird to take part in incubation. They appear to be fond of berries (*Vaccinium* and *Empetrum*), and in autumn, just before migration, may be seen feeding upon elder-berries. When flushed from the nest, we have never seen them "reel and tumble on the ground to decoy one away," as Seebohm states ('British Birds,' vol. i. p. 248), but have seen them, when flushed from hard-set eggs, or when having young, flutter for a few yards in a lazy sort of fashion over the top of the heather. Regarding the date of nesting, Mr. Fox mentions one which he found (April 29th) as ten days or a fortnight earlier than he usually sees them; but this date we should not regard as at all being early. They commence nidification very soon after their arrival, much more so than most of our summer visitants. In this district it much prefers to build its nest where the ground is much broken up, more so than on the flat portions of the moorland; a "gully" or steep declivity seems to be a particularly favourable nesting site, and I have, like Mr. Fox, found it breeding occasionally at some distance from the moors; and have also found its nest built in trees, but never at any great height. The eggs vary, even in the same nest, and it not unfrequently happens that, whilst three or four are of the typical colour and markings, one is hardly to be discriminated from the egg of a Blackbird. Four is the usual number of eggs, sometimes five, but we have never known it to sit upon three.—E. P. BUTTERFIELD (Wilsden, Yorkshire).

**Occurrence of the Willow-Tit in Sussex.**—In this Journal (1898, pp. 116–118) Mr. Ernst Hartert announced the discovery in England of the *Parus salicarius* of C. L. Brehm. The paper did not receive the attention it merited, probably because of a feeling of uncertainty among British ornithologists as to the validity of the species. During August, 1900, I determined to get together a series of Marsh-Tits, in the hope of procuring skins answering to the description of *P. salicarius*. It seemed to me that it would be best at first to search regularly each day the woods close at hand. By the 12th of October I had a fair series of Tits, and on that day I picked out three skins which I judged to be nearest to the Willow-Tit, and submitted them to Mr. Hartert, who replied that they were doubtless assignable to *Parus salicarius*. I have since shot three other examples, the last being a fine adult male, which I obtained on the 2nd of

December in Pond Wood, close to St. Leonards. When once the characters of the Willow-Tit are known, it may be distinguished without difficulty from the Marsh-Tit (*P. communis dresseri*) chiefly by its smaller size, the duller crown and nape, the more rufous flanks, and by the two outer rectrices being relatively shorter than in the latter. In the paper referred to, Mr. Hartert expressed the opinion that "British specimens of *P. salicarius* . . . differ a little from continental ones in being somewhat darker above, and having shorter wings." These and other differences exist, and have led Herr C. E. Hellmayr, in a recent paper,\* to separate the British form as *Parus montanus kleinschmidti*. In the opinion of the present writer this is the name by which the British Willow-Tit should be known. I have not ventured to make any remarks about the habits of the bird, as I hope to make these the subject of a future note. — W. RUSKIN BUTTERFIELD (4, Stanhope Place, St. Leonards-on-Sea).

**House-Martins in November.**—On Sunday (Nov. 25th last), at Margate, I watched for some time four or five House-Martins (*Chelidon urbica*) flying about near the Cliftonville band-stand. — HENRY T. MENNELL (Croydon).

**Hybrid Crow and White Wagtail in Merioneth.**—It is with pleasure that I am able to record a specimen of an intermediate form between *Corvus corone* and *C. cornix* as having been taken in the county of Merioneth. The bird in question was shot near Barmouth some five years ago by Mr. F. C. Rawlings, of that town, and has since been purchased by the writer, and most carefully compared with the true *C. cornix*. Although the two Crows are well known to interbreed, as may be seen in the beautiful case shown in the Cromwell Road Museum at South Kensington, the results of such crosses are sufficiently rare—at any rate, in North Wales—to warrant special mention in 'The Zoologist.' In appearance at first sight largely resembling a "Grey Crow," a closer examination shows that the head is of a blackish brown colour; the mantle brownish grey, not clear grey. Below the black throat, and to the middle of the breast, grey preponderates, as in a pure-bred *C. cornix*, but is of a darker shade. The entire abdominal region and under tail-coverts are brownish black. The bird in question is hardly as large as some specimens we have handled of typical *C. cornix*. Whilst writing, it may be of interest to mention that a mature White

\* "Einige Bemerkungen über die Graumeisen" (Ornithol. Jahrb. xi. pp. 201-217). The following is a translation of the original description of *P. m. kleinschmidti*:—Nearest to *P. mont. salicarius*, but the back more intensely coloured dark rust-brown. Secondaries with wide rust-brown margins. The creamy tinge of the sides of the neck extends to the base of the bill, and surrounds also the chin-spot from in front [*i.e.* from below], and laterally. Sides of the neck creamy yellow. Under side intensely rusty.

Wagtail (*Motacilla alba*) was seen at close quarters by the writer on Barmouth Bridge during October last.—J. BACKHOUSE (Harrogate).

**Nesting of Long-eared Owl.**—On May 3rd a nest of the Long-eared Owl (*Asio otus*) was found on the ground under a tiny Scotch fir amongst the heather on the peat-moss here. It contained two eggs. The nest was not visited again till May 16th, when the eggs had disappeared. On the 19th, however, a second nest was discovered about a hundred yards from the first, and in an exactly similar position. It contained four eggs, from which three young birds were subsequently hatched. To make certain of the species one of the young Owls was kept. It is a beautiful bird, and has a fine appetite. One night five mice and a young rat were put in the aviary in which it was kept; next morning they had all disappeared. I think the fact that both nests were on the ground, though there was an abundance of trees close at hand, is worth recording. Mr. J. H. Gurney mentions a similar instance in 'The Zoologist' (1900, p. 103), and a case is recorded by Stevenson ('Birds of Norfolk'). — CHARLES F. ARCHIBALD (Rusland Hall, Ulverston).

**"The Mode of Progression of the Phalacrocoracidae under Water."**

—In confirmation of Mr. Meiklejohn's remarks on this subject (Zool. 1900, p. 557), I may say that some years ago, on a very bright sunny day, I was standing on a cliff about thirty feet high, looking down upon a perfectly smooth and glassy sea on the coast of Skye, and saw immediately below me a Shag fishing. He was hunting round and under every stone, as a terrier would for a Rat, and never once used his wings.—J. P. JOHNSON (Castlesteads, Brampton, Cumberland).

**Early Jack-Snipe (*Gallinago gallinula*).**—Will Mr. J. Whitaker kindly say *where* he twice flushed one of these little birds on August 28th last? (Zool. 1900, p. 557). My experience teaches me that the species does not immediately resort to the marshes on first arriving in England; or, let me rather say, the pioneers of the impending migratory movement, when flushed by me in Leicestershire, are never in marshy tracts, which I invariably beat in September, but are always started from dry out-of-the-way spots where one would least expect to find them. I understand that Mr. A. H. Meiklejohn has met with some experience that tallies with my own.—H. S. DAVENPORT (Melton Mowbray).

**Baird's Sandpiper in Sussex.**—On Oct. 11th, 1900, at Rye Harbour, Sussex, I shot a nice specimen of Baird's Sandpiper (*Heteropygia bairdi*, Coues, cf. Sharpe, Cat. Birds Brit. Museum, xxiv. p. 570), an immature female. It was identified by Dr. Ernst Hartert, of the Tring Museum, to whom I sent it for that purpose, and was seen in the flesh by both Messrs. A. R. Ticehurst and W. Ruskin Butterfield. It was skinned by G. Bristow,

of St. Leonards. I found it feeding by a large pool in the beach on the west side of Rye Harbour. Its cry was a shrill kind of twitter. Its flight resembled the Common Sandpiper for the first few yards, when it rose for a considerable height, and then plunged suddenly head first to the ground. It was exhibited by Dr. Hartert to the members of the British Ornithologists' Club at their meeting on Nov. 21st. This is, I believe, the first British record, and also, I believe, the first European one. Its length was  $6-6\frac{1}{2}$  in.; length of wing, 5 in.; spread of wing about  $6\frac{1}{2}$  in.; tarsus,  $\frac{7}{8}$  in.; hind toe,  $\frac{3}{8}$  in.; bill in length, 1 in., narrow, straight, and tapering; toes slightly webbed at joint of foot; bill and legs jet-black. The specimen is now in my collection.—MICHAEL JOHN NICOLL (10, Charles Road, St. Leonards-on-Sea, Sussex).

## INSECTA.

*Vanessa polychloros* in December.—On Dec. 30th last I had the unexpected pleasure to obtain a large Tortoiseshell Butterfly (*V. polychloros*), which appeared fluttering against the window. It is a perfect specimen, and is now in my cabinet.—C. S. BUXTON (Fox Warren, Cobham, Surrey).

[Of course this was a hibernating specimen allured to its destruction by the mildness of the present season. We have seen and heard of some other species on the Surrey hills during the same month.—ED.]

## BIBLIOGRAPHY.

**The Birds of Yorkshire.**—Naturalists and others interested in the subject may be pleased to learn that arrangements have been made for the speedy resumption of the publication of Mr. W. Eagle Clarke's excellent work on the 'Birds of Yorkshire,' which has been partly published in the 'Transactions' of the Yorkshire Naturalists' Union, and the continuation of which was interrupted by Mr. Clarke's leaving Yorkshire to settle in Edinburgh. Mr. Clarke and the Yorkshire Naturalists' Union have now secured the services of Mr. Thomas H. Nelson, of Redcar, to continue and complete the task. Mr. Nelson has in his possession the voluminous mass of original and unpublished observations which Mr. Clarke had at his command when writing the instalments which are already in print, and which includes notes, lists, and observations from many of the naturalists who have studied and observed Yorkshire birds. In addition to this is the whole of the information amassed by the late Mr. John Cordeaux relating to the birds of the Humber district, and also the large number of notes which Mr. W. Denison Roebuck has extracted from the very voluminous literature on the subject, and Mr. Nelson's own accumulated series of notes on the birds of Cleveland and other districts, the whole forming an ample mass of material for the purpose. Mr. Nelson will also



be pleased to enlist the co-operation of those who have it in their power to assist him with notes on Yorkshire birds, their history, distribution, migration, nidification, variation, vernacular nomenclature, &c. All assistance will be duly and gratefully acknowledged. Mr. Nelson is now actively at work on the families *Turdidæ* and *Sylviidæ*, which are to be included in the next instalment sent to press. Communications may be addressed to T. H. Nelson, The Cliffe, Redcar.

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WE beg to announce that for several years past we have been working upon the subject of the "Birds of Yorkshire," and hope at an early date to publish the result of our labours in book form.—OXLEY GRABHAM, J. BACKHOUSE.

## NOTICES OF NEW BOOKS.

*Animal Behaviour.* By C. LLOYD MORGAN, F.R.S.  
Edward Arnold.

WHEN Prof. Lloyd Morgan publishes a book, we know we shall have a real contribution to the little-known subject of animal psychology. Much, very much, is now published on this phase of evolution, and the study of the habits or behaviour of animals other than man demands two factors—carefully observed facts, and the psychological method. The last is here present in its best form; the first is probably still insufficient for the purpose.

The attitude of the writer of this interesting volume to the position of the two dominant schools of thought on the subject, represented by the Neo-Lamarckians and Neo-Darwinians, is one of caution. To the query, "Are acquired modes of behaviour inherited?" a negative answer "is here provisionally accepted." "Granted that acquired modifications, as such, are not directly inherited, they may none the less afford the conditions under which *coincident variations* escape elimination"; and we read again, "The acceptance of the conclusion that acquired modes of behaviour are not hereditary, nowise commits us to the belief that heredity has nothing whatever to do with them."

Not only are observational facts required, but the right interpretation of those observations is a matter of no little difficulty, requiring a trained mind and a scientific method. A rapid observation too frequently promotes a hasty conclusion. Prof. Lloyd Morgan gives a good instance of the danger of this mental pitfall. He had been experimenting with a dog and a crooked stick. A man who was passing, and who had paused for a couple of minutes to watch the proceedings, said, "Clever dog that, sir; he knows where the hitch do lie." The remark was the characteristic outcome of two minutes' chance observation, and was

directly opposed in its essence to the conclusions prompted by the author's half-hour study of the antecedent actions. The detailed observations of our contributor, Mr. Selous, in these pages are an object-lesson in possible bionomics.

The author is somewhat pessimistic as to the solution of the riddle of life. He regards the questions as to "What makes organic matter behave as we see it behave? what drives the wheels of life, as it drives the planets in their courses? what impels the egg to go through its series of developmental changes?" &c., as beyond the sphere of science, which should give one answer and one only: "Frankly, I do not know; that lies outside my province; ask my sister Metaphysics." But this advice does not prevent Prof. Lloyd Morgan from giving us a really wonderful contribution to the psychological interpretation of animal behaviour; every sentence bears the imprimatur of "thought out." Much more evidence might have been procured, but what is given has been selected with care, and is exhaustively and judiciously considered and placed before the reader, to whom the verdict must be left. As an example, we will give one more extract:—"The question has again and again been asked: Do animals reason? And different answers are given by those who are substantially in agreement as to the facts and their interpretation, but are not in agreement as to their use of the word 'reason.' Perhaps, if the question assume the form, Are animals capable of explaining their own acts and the causes of phenomena? the position of those who find the evidence of their doing so insufficient may be placed in a clearer light. This is what is generally meant by the statement that animals have probably not reached the level of rational beings."

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*Problems of Evolution.* By F. W. HEADLEY. Duckworth & Co.

THIS is an able advocacy of the universal action of natural selection, written by a Neo-Darwinian, who we read belongs "to those Darwinians who have thrown overboard Lamarckism"; in other words, followers of a Darwinism freed from all taint of Lamarckian heresy. The book itself belongs to that ever-increasing literature to which the conception of "Darwinism" has given birth, and is one which cannot be neglected by the

student of the dominant phase of thought which now distinctly influences all philosophy, and less evidently moulds ethics and theology as well. Darwinism is no longer the sole property of the naturalist; it has invaded the "social contract," and the doctrine of "natural selection" as loosely used in social economy is often little different from utilitarianism, or what has been well called the cult of *laissez faire*. The last remarks are opportune, because Mr. Headley devotes the second part of his book to "Problems of Human Evolution," and in these pages we can now only refer to his first instalment dealing with the factors of organic evolution.

Mr. Headley surveys these factors under the usual different classifications, *viz.* Heredity, Variation and Death, the Lamarckian Principle, Natural and Sexual Selection, and Isolation, and describes and estimates their powers from the standpoint of his own analysis. The result is a most readable and instructive representation of much evolutionary evidence with advocacy of "selectionist" principles. (The term "selectionist" must now be recognised; it is largely used, and seems to have an *extra* Darwinian definition.) If there were no struggle for existence, many animals would, in a short time, become dominant by number. We have had many examples given us, and now Mr. Headley, who is an ornithologist, adduces the case of the House-Martin (*Chelidon urbica*):—"It is quite common for them to have three broods in the year, and we are not beyond the mark in allowing them four in each brood. In order to avoid any possible exaggeration, we will assume that each pair has eight young ones each season. At this rate, if there were no deaths, there would in five years be six thousand two hundred and forty-eight House-Martins sprung from one pair."

We are glad to find our author is free from the crass Cartesianism so prevalent among many "Neo-Darwinians" of the present day. "The problem of the origin of consciousness puts us on the horns of a dilemma. Either consciousness is present in the lowest forms of life, or else it was introduced at a higher stage of development. The latter alternative is abhorrent to the very principle of evolution. We are driven, then, to believe that even the micro-organisms, whether animal or vegetable, have some consciousness, however dim."



*Reminiscences of a Falconer.* By Major CHARLES HAWKINS FISHER. John C. Nimmo.

THIS is the account of an old sport genially described by one of its devoted followers, and if we cannot all go "a hawking," we shall still find much sound ornithological information in the volume. It has become almost a proverb that Hawk does not eat Hawk, but Major Fisher gives us instances of a trained Falcon striking dead and "coolly eating a Sparrow-Hawk," and of another trained Falcon most pertinaciously chasing a Merlin. We also read in reference to the nidification of Rooks that it is believed by many falconers and game-keepers, "and specially by that observant class of men, the shepherds on the Wiltshire downs, that Rooks are not adult and do not breed, and are not allowed by the others to make a nest until they are fully two years old or upwards." We were also not aware that Hawks that have been well entered to game may be lost for a time and be none the worse for it. "Indeed, they may be improved by a temporary restoration to freedom, and forget nothing of what they have learnt."

The author charms us with his sincere love of the sport and its Falcons. After one exciting and successful chase of a Woodcock, the Hawk was not disturbed from her well-earned quarry. The whiskey was served out, "and we drank her health all round. Then we, too, set to work at our lunch, and when this very tame pet Hawk had nearly done hers, I went up to her and took her up, and having replaced the swivel in her jesses, and the leash in her swivel, and cleaned her feet and wiped her beak and kissed her, I fastened her to a stone in a lonely burn close by, and witnessed her bathe and dry herself in the sun, preening her feathers to her and our entire satisfaction."

This should be a sport for our recently annexed South African territories. The Transvaal veld is an unequalled area for the pursuit, birds of prey are plentiful, and the right sort can be easily obtained and afterwards trained. Coursers, Plovers, Sand-Grouse, and Francolins would provide good quarry, and we suggest falconry and this book as its introduction to those sportsmen who will gladly welcome a change of occupation to that which has now so long been dominant in that region.

The illustrations, chiefly portraits, are excellent. It may perhaps interest the subject of the frontispiece to know that he

has a double in Surrey, and that the writer of this notice very much astonished a peaceful and non-sporting gentleman by showing him the portrait of Major Fisher as that of himself.

In no carping spirit of criticism, we would point out that the same narrative is given on both pages 54 and 99, which seems to prove that the printer's "reader" had not the keen eye of the trained Falcon.

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*The Birds of Glamorgan.* Compiled by a Committee of the Cardiff Naturalists' Society. Cardiff: South Wales Printing Works, St. Mary Street.

THE very name of Cardiff inspires a view of docks and coal-mines rather than the sylvan haunts of birds, and we read in the introduction to this very handsomely printed avian enumeration that the establishment of the iron industry and the working of the coal-measures have contributed to reduce the number and variety of "our bird species." Still, Glamorgan is not wholly given up to the devastating instincts of commercial man, and a list of its birds compiled to-day will be material to compare a hundred years hence with what its avian fauna may be then.

The list contains the names of two hundred and thirty-five species, including such rarities as the Rusty Grackle (*Scolecophagus ferrugineus*), a native of boreal regions, shot near Cardiff in 1881; the Little Carolina Crake (*Porzana carolina*), captured at Cardiff in 1888; and Pallas's Great Grey Shrike (*Lanius major*), shot near Bridgend in 1881. We quite agree with the condemnation of the practice of providing a violent death for strange birds; but may we not ask how we should have recorded the presence of two out of the three above birds without the aid of the gun. It is pleasant reading to find that the Kingfisher still abounds, that the Goldfinch is on the increase, the Hawfinch is pushing westward and is breeding in the county, the Merlin is regarded as common, the Kestrel is abundant, and the Sparrow-Hawk fairly numerous, notwithstanding the persecution of the game-keeper; but, on the other hand, the Marsh-Harrier is supposed to be now extinct, and the Hen-Harrier as almost so, the Chough has decreased very much of late years, while the same remark applies to the Land-Rail.

The excellent print and general "get up" of this book is worthy of all commendation.

## EDITORIAL GLEANINGS.

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'INDEX ANIMALIUM.'—By 'Index Animalium' is meant an index to the generic and trivial names (which together make the specific name) given to all animals, whether fossil or recent, by all authors between the years 1758 and 1900. Such an index aims at providing (1) a complete list, (2) a complete entry for proper quotation, (3) an exact date to each entry. The compilation of this great list was commenced by Mr. C. Davies-Sherborn in 1889, and the MS. is housed under the care of Dr. Henry Woodward at the British Museum (Nat. Hist.). Dr. Woodward, who, with the late Sir W. Flower and Dr. Günther, takes special interest in the work, offered the loan of the necessary cabinets for the slips, and the space necessary for the cabinets, so as to ensure safety from fire or other destructive agencies. The British Association, the Royal Society, and the Zoological Society have assisted with funds; while other Societies have assisted with books, or given various facilities for study. The present Committee appointed by the British Association consists of Dr. Henry Woodward (Chairman), Dr. Slater, Mr. Hoyle, the Rev. T. R. Stebbing, Mr. McLachlan, and Mr. Bather. About two years ago Dr. Slater suggested that a special effort should be made to get ready for publication the first portion (1758-1800). This has now been done, and the question of printing is under discussion. At the same time it may be mentioned that many thousands of slips belonging to the 1801-1850 portion are already prepared, and the printing of one part and the compilation of the other will go on simultaneously. Such a labour of love—for it really amounts to that—should prove of considerable use to those who live away from libraries; while to librarians it will be of incalculable benefit, if it only induces a proper method of quotation, instead of the slipshod present method, only too common even among entomologists. A special point about the references is that they include not only the original, but also each case in which the trivial name has been associated with another generic name. The compiler has carefully avoided synonymy, and has arranged his entries under species in one alphabet, in which the generic names fall into their proper places. During the progress of the work Mr. Sherborn has published numerous papers on the dates of books that were issued in parts, perhaps the most valuable of which to an entomologist are those dealing with Hübner and Esper. It is calculated that Part I. will deal with 60,000 entries, and no

doubt a great step will be gained as to exact nomenclature when the Index issues from the press.

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It has long been known that certain beetles, notably the Longicorns, squeak loudly when excited, the sound being produced by the friction of a file-like area on some part of the body against an adjoining edge as the parts are moved rapidly over one another. Stridulating organs seem, however, to be far more common among beetles, and much more diversified in position, than has hitherto been thought to be the case. Mr. C. J. Gahan, giving an account of these organs in the 'Transactions' of the Entomological Society (Part III. 1900), has enumerated several genera and not a few families in which their presence had previously been barely suspected, if not altogether unknown. The Longicorns, it would appear, can no longer claim to contain the greatest relative number of stridulating species, for in this respect they are exceeded by the *Megalopidae*, while the *Endomychidae*, *Clythridae*, and *Hispidae* seem to run them very close. The *Tenebrionidae* also, and the *Curculionidae*, furnish a considerable number of stridulating genera; and Mr. Gahan has shown that in the latter family the stridulating organs are not restricted to the males, as stated by Landois, but are frequently found also in the females, in some genera in the same position as in the male, in others in a different position. Genera of other families also are mentioned, in which the stridulating organs differ in position or structure according to sex, or are found in one sex only, usually the male. Darwin believed that the stridulating organs of beetles, like those of Crickets and Grasshoppers, serve as a sexual call, and have been gradually perfected by a process of sexual selection. Mr. Gahan, while accepting this view so far as it relates to the majority of adult beetles, points out that it is quite inapplicable to the stridulating organs discovered by Schiodte in the larvæ of several forms, some of which are even more perfectly developed than in any of the adult insects. Amongst other interesting facts to which he calls attention, is the great resemblance in position and structure which the stridulating organs of genera belonging to totally distinct families may have to each other, while at the same time the position of these organs may be quite different in genera belonging to one and the same family.

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WE have received a 'Guide to the Zoological Collections exhibited in the Bird Gallery of the Indian Museum' (Calcutta), by Mr. F. Finn. This is a primer on Indian Ornithology rather than a list of names or an enumeration of species. With this guide any fairly intelligent visitor who would take the trouble to read and examine the birds would return with some knowledge of avian matters of a sound and useful character. It is published by the Trustees of the Indian Museum.





THE VICTORIAN ERA has closed. By the death of the Gracious Lady who has so long reigned Queen over this realm, an epoch marked by giant strides in the development of our industries, arts, and sciences has terminated. We can as little separate the sympathy of the Queen with human progress as we can overestimate the close relationship she held with all that was best in her people; such things are felt rather than seen or written.

As zoologists—few of us, indeed, having lived during any other reign—we see focussed in this period the rise of modern thought. In geology—uniformitarianism; in biology—the unfolding principles of evolution. If strange animals were once brought to Imperial Rome, how can we estimate the zoological treasures we have acquired from our Greater Britain? It is not beyond reason to say that a Natural History descriptive of the fauna and flora of the regions now known as British would represent the main features of Animated Nature.

The Head of our polity has passed away. It has at least been our privilege to largely make the journey through life in the Era of Victoria.